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A SUMMARY OF
FIRES
REPORTED AT
MINES AND MINING PLANTS
in ONTARIO
for the YEAR 1994



Mining Health and Safety Program
933 Ramsey Lake Road
Sudbury, Ontario
P3E 6B5

July 1995



FIRES AT MINES AND MINING PLANTS - 1994

Preface

This report is a summary of the fires at mines and mining plants reported to the Ontario Ministry of Labour for 1994.

There were 87 fires reported for 1994, which is up from the 81 fires that occurred last year.

The majority of these fires (82) occurred in an underground mine and of these, 55 or 63% involved mobile vehicles. Included in this report are charts and analysis of these fires.

Damage was reported in 48 fires (55%), and although most of the damage was minor, in three accidents vehicles were heavily damaged.

Of the 82 fires (94%) that occurred underground at a mine, the mine rescue teams were called out 11 times. A list of the activities of the mine rescue teams during the year is included. It is interesting to note that fire extinguishers were used to put out 43 fires, indicating the importance of having good fire fighting equipment and well trained equipment operators.

The number of fires appears to be level since 1989, and down from the total of 97 fires that were reported in 1988.

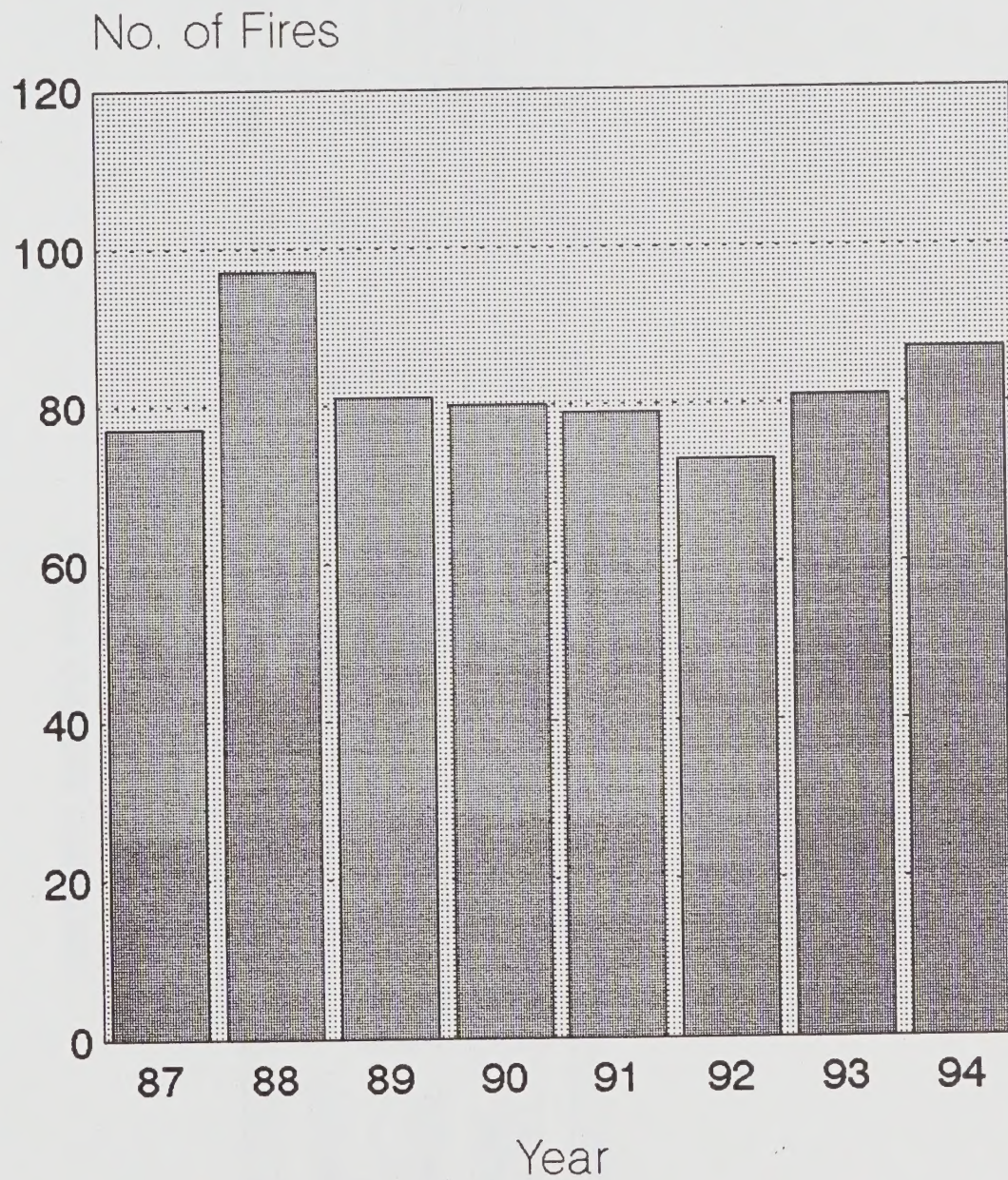
The Ministry of Labour also produces yearly summaries and analysis of mobile vehicle accidents including fires. Extra copies of all reports are available by writing to the Ministry of Labour office at 933 Ramsey Lake Road, Sudbury, Ontario P3E 6B5 or phoning 705/670-5695.



Ministry of Labour
Sudbury
July 1995

ONTARIO MINING FIRES

Total Fires for 1987 - 1994



Ontario


ONTARIO MINING FIRES

Table 1

Category of Fire

YEAR

CATEGORY	1987	1988	1989	1990	1991	1992	1993	1994	Total	%
Equipment Failure (EF)	1	4	2	9	8	5	6	5	40	6
Electrical (EL)	16	20	22	17	11	16	10	10	122	19
Explosion (EN)	1	0	1	0	2	0	1	1	6	1
Flammable Gas (FG)	0	1	3	2	0	0	1	2	9	1
Hoisting (HS)	1	2	2	2	1	0	0	0	8	1
Miscellaneous (MS)	13	20	5	8	11	10	7	14	88	13
Mobile Vehicle (MV)	45	50	46	42	46	42	56	55	382	58
TOTAL	77	97	81	80	79	73	81	87	655	

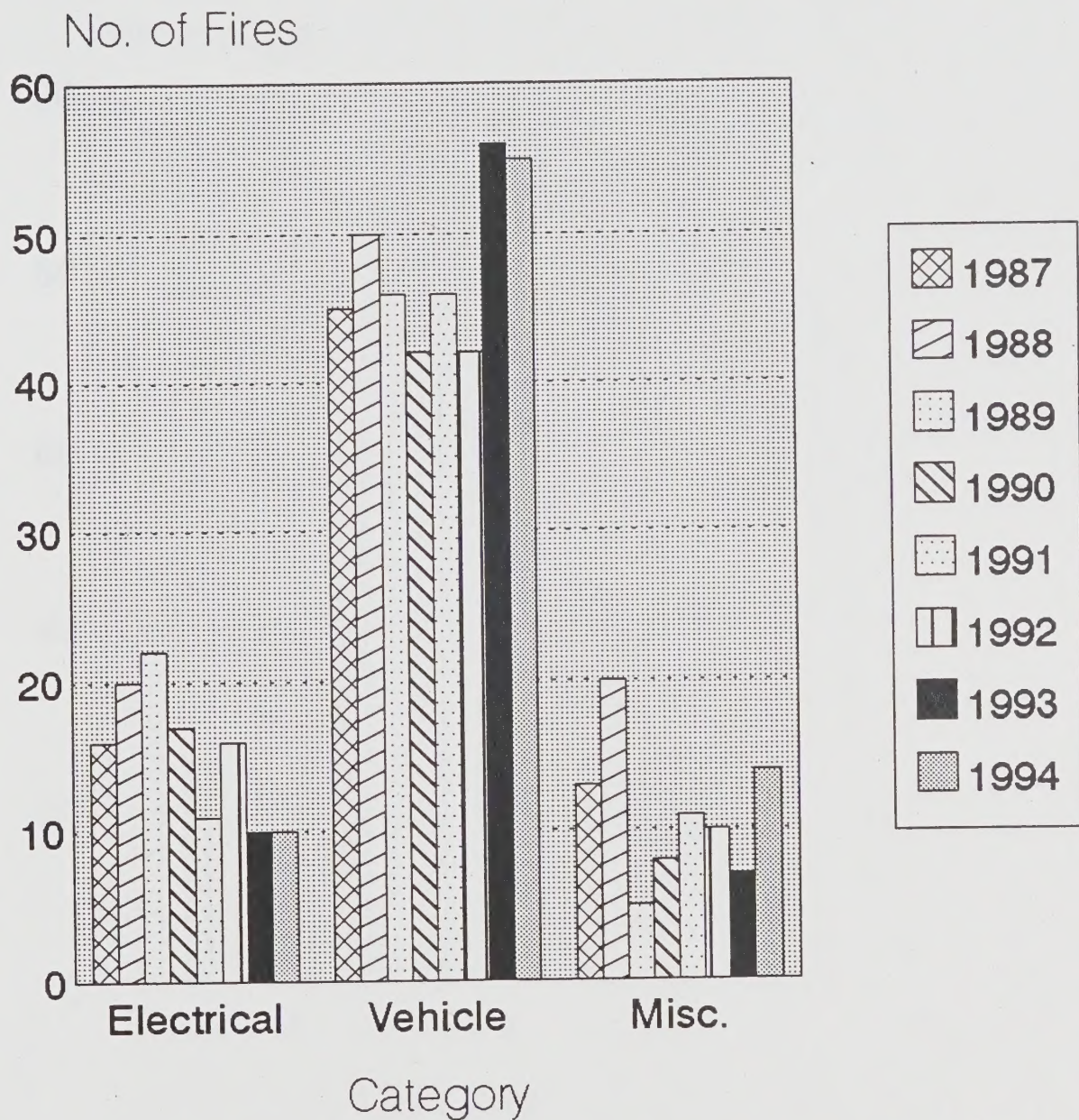


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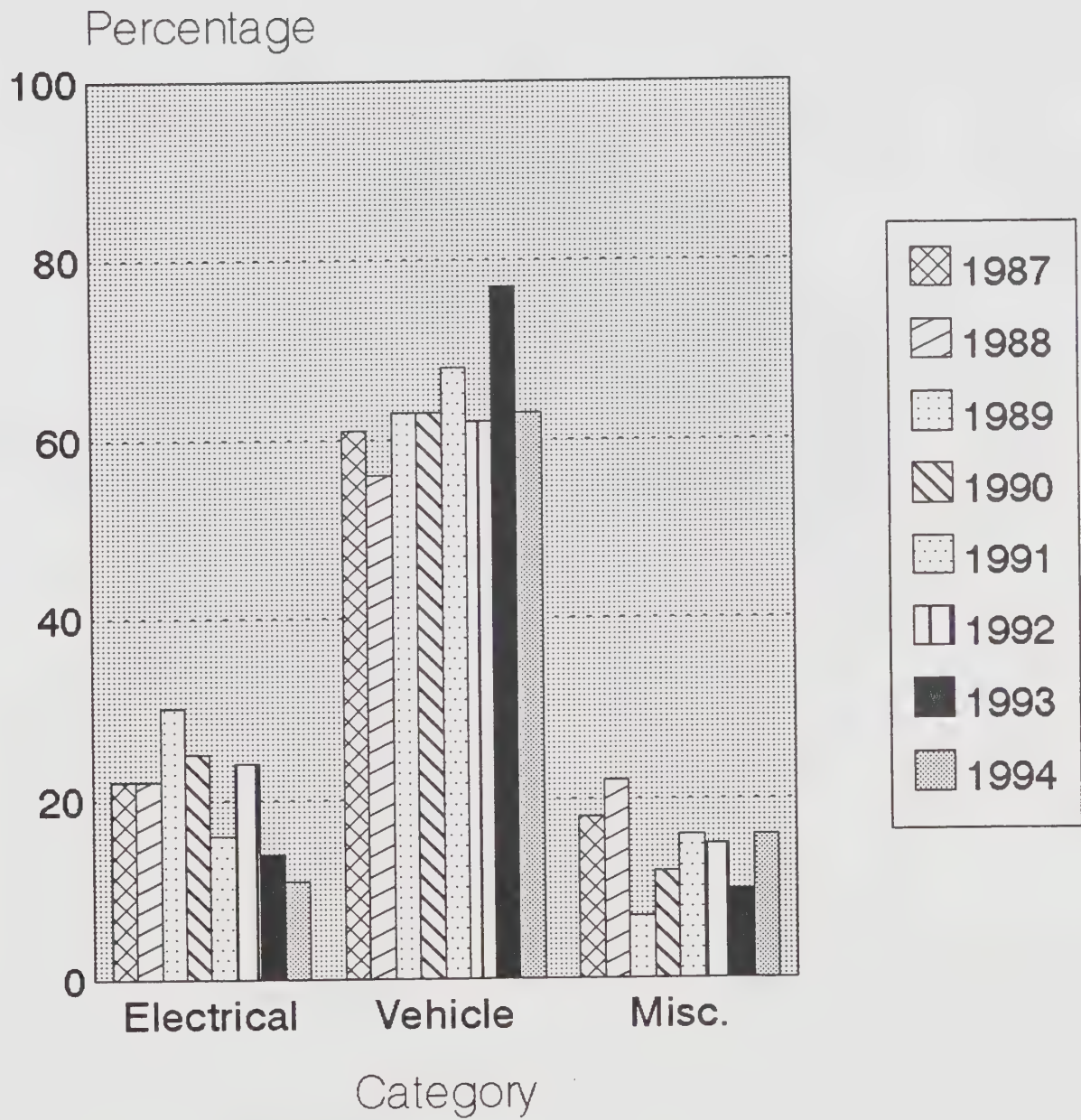
ONTARIO MINING FIRES

Category for 1987 - 1994



ONTARIO MINING FIRES

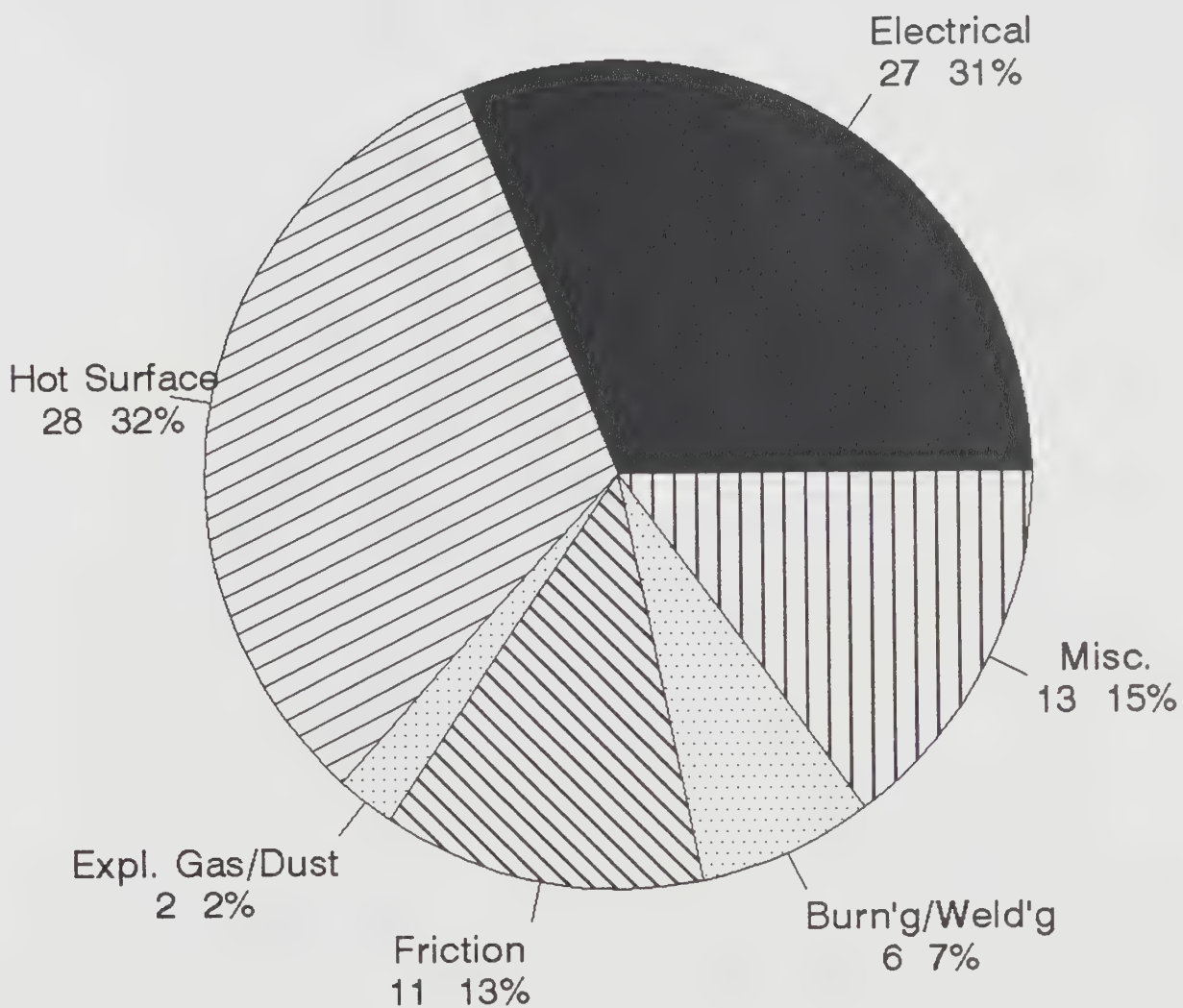
Category for 1987 - 1994



Percentage of Fires

ONTARIO MINING FIRES

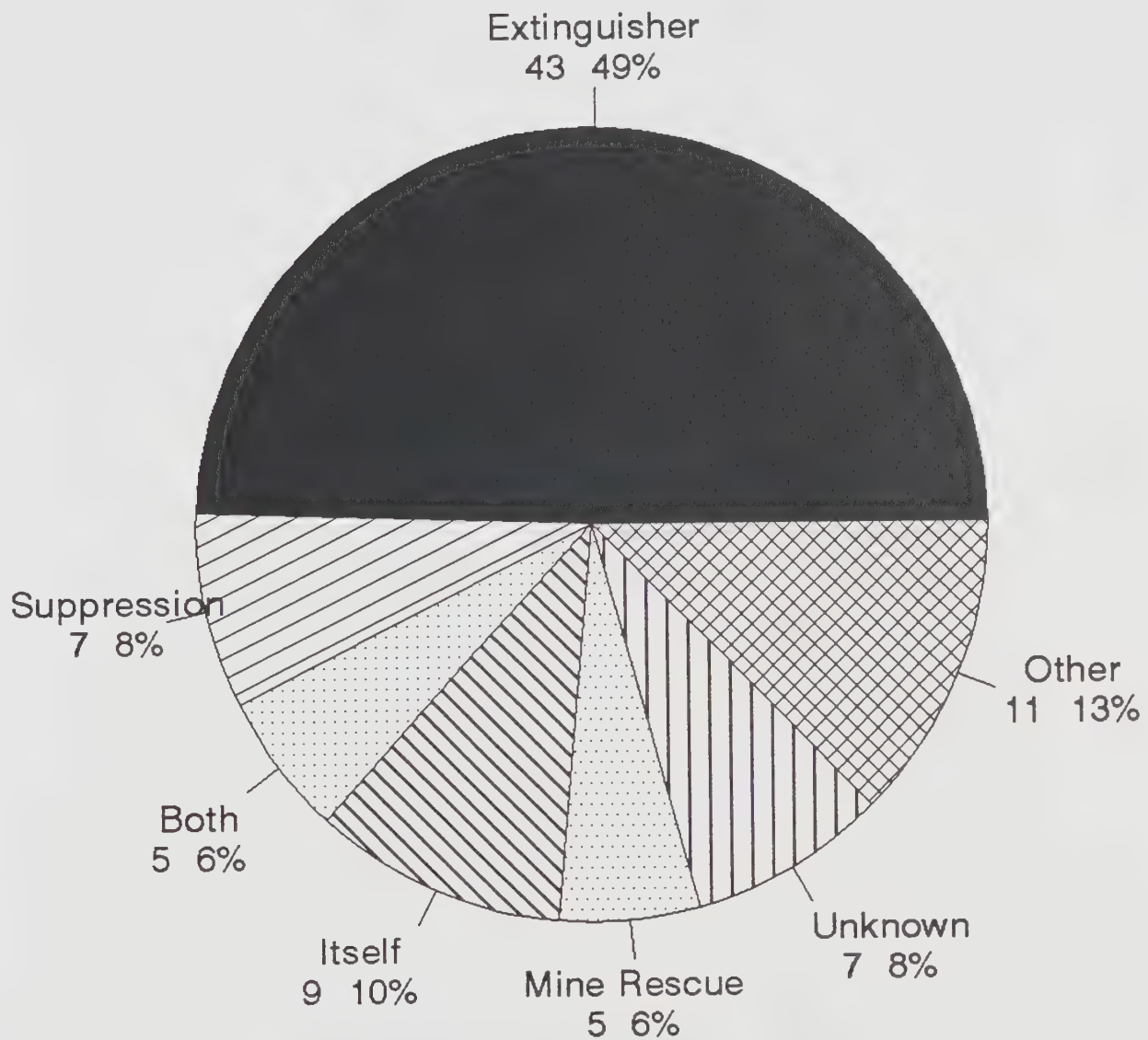
Source of the Fire - 1994



No. of Fires - Total = 87

ONTARIO MINING FIRES

Extinguishment - 1994



No. of Fires - Total = 87

ONTARIO MINING FIRES – 1994

Description of Fires

Grouped by Category

Equipment Failure (EF)

Electrical (EL)

Miscellaneous (MS)

Mobile Vehicle (MV)

ONTARIO MINING FIRES
1994

Date of Fire Description of Fire

** TYPE OF FIRE EF

- 03/10/94 At the shift end, 2 workers noticed smoke and flames coming from the pillow block bearing on the tail pulley. They notified the surface attendant who triggered the fire alarm. The workers used a fire hose to put out the fire.
- 04/27/94 The drive end bearing of a 250 H.P. pump drive motor caught fire approximately 20 hours after the polychain drive belt was adjusted with the motor running. The fire was extinguished with a portable fire extinguisher.
- 07/08/94 The PVC spiral pneumatic drill hose wrap on a Cubex ITH drill caught fire due to high discharge temperatures of the booster compressor that was operated without the aftercooler. The fire was extinguished with water.
- 07/12/94 The west bearing at #1 conveyor belt head section overheated. An open flame was reported. An ABC fire extinguisher was used to extinguish the fire.
- 07/12/94 While using a portable diesel welding machine in the 15-984 stope, a fire occurred when the fan belt broke and the engine overheated. An oily build-up around the exhaust ignited due to the excessive heat. A fire extinguisher was used to put out the fire.

** TYPE OF FIRE EL

- 03/29/94 A 5 KVA transformer in 4700 refuge station overloaded and caught fire. Two extinguishers were used to put out the fire.
- 04/29/94 High resistance contact, on a 600 volt disconnect, caused a phase to phase short, resulting in a fire. The fire extinguished itself when the power was removed from the circuit.
- 05/02/94 A driller was about to move a jumbo drill when he heard a bang and saw flames at the plug. The fire went out when the power tripped off at the breaker.
- 05/05/94 An electrical cable fire on the third level, top of #19 raise produced noises and smoke. The workers were evacuated and the power was shut off. The mine rescue team investigated and found that the fire was out.
- 05/11/94 The 6 ton trolley was connected to the trolley

ONTARIO MINING FIRES
1994

Date of Fire Description of Fire

line by a remote cable. The crew was in the process of mucking out a drift round when the cable shorted out and caused arcing and subsequently a fire started. Both workers attempted to put out the fire but were overcome by smoke. The mine was evacuated and a Mine Rescue team was sent to investigate and reported that the fire went out by itself.

05/18/94 Three miners on a development crew discovered a fire burning in the 615 level electrical substation. They discharged 2 fire extinguishers at the fire, but failed to put it out. The underground stench system was activated, and mine rescue teams activated. At 5:24 a.m. the fire was declared out. Electrical arcing on loose feeder connections due to heavy loads was the cause of the fire. Full power was restored in 36 hours.

06/22/94 The operator of a trolley saw a small flame coming from under the hood. He disconnected the power, removed the hood and used a 20 lb. extinguisher to put out the fire.

11/13/94 A power outage occurred underground. About 1 hour later, a strange smell was reported and it was traced to the 4750 electrical transformer. The fire went out when the power was shut off. Stench gas was injected and the mine rescue team investigated. Power was restored by early morning the next day.

11/30/94 The operator was starting to mechanically scale the west wall of a stope. As he was scaling, he noticed the sparks flickering on top of the boom knuckle. He lowered his cab and the hydraulic boom and extinguished the fire generated by the wire coating. Two electrical wires had frayed and shorted together.

12/20/94 The hoist operator went to reset the #3 production hoist, when he noticed a haze in the air near the hoist panel. Smoke and flames were coming from a transformer. A fire extinguisher was used to put down the fire, and was used again when the fire flared up again. The fire department was called. The fire was in the #1 convertor transformer.

ONTARIO MINING FIRES
1994

Date of Fire Description of Fire

** TYPE OF FIRE EN

09/07/94 Explosion occurred at oxy/gas burner at the east end of Anode II furnace. The oxygen delivery line blew apart.

** TYPE OF FIRE FG

02/06/94 The burglar alarm in the gold refinery sounded. The security guard investigated and found a propane unit heater on fire. Workers were notified and the fire alarm sounded. A mill operator, wearing SCBA, entered the room and put the fire out with a 10 lb. ABC fire extinguisher. Propane lines were shut off. A second unit in the area was also burning but self-extinguished when the propane supply was shut off. The vaporizers were found off allowing liquid propane to reach the unit heaters.

02/16/94 Blast of drift round 4.5 x 3.8 metres x 3.4 long caused second blast or fire of high sulphide gas or dust, resulting in burnt vent tubing located in drift. The heading was very well washed down and lime and water sprays were also used.

** TYPE OF FIRE MS

01/03/94 At approximately 20:40 hrs. a mill employee smelled smoke around the oil storage shed. The local fire department was summoned, due to an error in dispatching they did not arrive until 21:17 hrs. The fire was completely extinguished by 21:50 hours. Damage to the shed consisted of a burnt 2" x 4" stud and some burnt plywood sheathing.

01/11/94 During the normal operation of the refinery, the mine site experienced a power bump, causing all equipment to shut down. Upon restoration of power, the exhaust fans above the Wabi furnaces were not running. The exhaust duct overheated, causing the roof to catch fire. The mine and township fire departments were called to put the fire out in the roof materials (insulation, felt, asphalt, gravel and tar).

ONTARIO MINING FIRES
1994

Date of Fire	Description of Fire
01/31/94	Welder was gouging out a piece of steel off a scissor truck platform. Sparks fell into a scrap bin starting a fire. Worker extinguished the fire with a water hose.
02/12/94	Some unused ducting in the mill was removed using a cutting torch. Slag from the cutting lodged in a wooden beam of the building wall and ignited some electrical cables on the beam. Trouble-shooting of minor electrical problems led to the discovery of the fire.
02/17/94	While using an electric cut-off saw to remove U-bolts and old pipe from No. 3 Shaft, sparks flew from the saw into the exhaust fan housing chamber causing insulation to smoulder. There were no flames at anytime during the incident.
03/16/94	Exposure to high CO gases caused from burning going on underneath workers and fumes rose to affect the workers.
05/10/94	"Foaming" occurred at the #10 anode furnace causing approximately 1 tonne of slag to run out from the burner port of the furnace, onto the work platform.
08/29/94	Electrowinning cell in refinery caught on fire. Fire was put out with a fire extinguisher.
09/06/94	A fire flared up at the west end of the #1 Warehouse. The fire caused damage to the transition enclosure between the warehouse and the #13 belt area. The fire was put out by on-site personnel.
11/01/94	An operator of an LHD hit a 4160 volt line. The line flared and the open flame was put out with an extinguisher.
11/15/94	A fire occurred on the #1 generator drive engine. The generator had tripped off line twice before the fire started. The fuel filter gasket started to leak, and the pressure eventually blew the gasket out. A mist of fuel hit the #5 cylinder head and the fire started. Fuel was also on the engine wiring and the oil cooler lines.
11/25/94	Workers were cutting pipes and bolts when slag fell on timber below them. They had wet the timber but when they returned from lunch they reported smoke. Four mine rescue teams were used to put out the fire.

ONTARIO MINING FIRES
1994

Date of Fire Description of Fire

- 12/01/94 The raise crew had been requested to dispose of a large quantity of old type nonel blasting caps. The blasting caps, still in original boxes, were bunch blasted using B-line and tape fuse. The cardboard material and shock tube caught fire after the initiation.
- 12/19/94 A worker was driving a truck. He had just dumped a load in the crusher and was returning to the face. He noticed the oil light flash and pulled over and shut off the engine. He then noticed a glow from the passenger's side of the motor by the rad area and put the fire out using a hand-held extinguisher.

** TYPE OF FIRE MV

- 01/07/94 An Eimco 8.5 yd LHD was tramming cement from surface down a ramp when the right front wheel caught fire. The operator used the fire suppression system and an extinguisher but could not put the fire out. Two mine rescue teams were called out and one put the fire out.
- 01/09/94 Worker was operating a JCI 6 yd. LHD. He had travelled up ramp from 35+4 to the 3200 level when he noticed flames coming from the engine area. Worker extinguished the fire with a 20 lb. dry chemical extinguisher.
- 01/14/94 The operator was backing a JS500 LHD out of the stope on the remote control. He noticed flames coming from the air filter side. The operator activated the fire suppression system and then an extinguisher to put out the fire. A mine rescue team was called out and when they arrived the fire was out.
- 01/21/94 A worker was operating an 8 yd. Toro LHD when he noticed flames coming from the unit. He shut down the scooptram and extinguished the fire with a 20 lb. hand-held extinguisher.
- 02/01/94 Oil was leaking from the oil cooler and it was drawn over hot engine components by the main engine fan and then it ignited. The operator activated the fire suppression system on the Wagner 6 yd. LHD and extinguished the fire.
- 02/08/94 While fuelling a JS600 LHD vehicle in the 9240

ONTARIO MINING FIRES
1994

Date of Fire Description of Fire

Level Fuel Bay, diesel fuel spilled onto the turbocharger and ignited. The flames were extinguished with a portable fire extinguisher.

02/10/94 A fire occurred on a 6 yd. Toro 400 in the engine area and it was put out with an extinguisher. A mine rescue team investigated the scene.

02/22/94 A fire on a Toro 500 LHD occurred when oil on an exhaust pipe and insulation wrapping caught fire. It was extinguished with a hand-held extinguisher.

03/04/94 Oil from rocker cover spilled on engine exhaust and caused fire on an ST8. Fire was extinguished by hand-held extinguisher.

03/10/94 A hydraulic hose broke, on a 6 yd. EJC model 210 LHD, spraying oil onto the turbo charger causing a fire. The fire was extinguished using a hand-held extinguisher.

03/10/94 Worker as using an 8 yd. Toro scooptram to muck ore from 1210 Stope to the orepass. The worker noticed smoke coming from the right front tire area of his scoop. Upon investigation he discovered that the right front tire was burning. The operator extinguished the fire with a 20# dry chemical fire extinguisher.

04/01/94 Operator was mucking in 43-4-485 stope on a Toro 8 yd. scoop when the hose loading from the dump hoist pump sprayed oil on the turbo charger and ignited the oil. The fire was put out with an extinguisher.

04/14/94 An oil leak was spraying onto compressor of a CMS Bolter and it caught on fire. A fire extinguisher was used to put it out.

04/16/94 While fuelling an LHD in 560 fuel bay, the nozzle slipped out of the tank and sprayed the hot manifold. The fire was put out with an extinguisher.

04/17/94 A flame on the driveline brakes was noticed by the operator of a Marcotte anfo loader. The fire was extinguished by the use of water.

04/18/94 Oil from feed pipe was leaking on turbo charger of a 6 yd. Wagner LHD and ignited. Operator put out fire with a 20 lb. extinguisher.

04/29/94 Two workers were welding on an LHD in the 3000 level garage when a fire occurred. The workers inhaled some smoke.

ONTARIO MINING FIRES
1994

Date of Fire	Description of Fire
04/29/94	A fire that started on a Kubota tractor was put out with an extinguisher.
04/30/94	Employee was hauling muck to stock out area in 22/70. As he turned the corner, the cap on the front shock absorber of a Cat 35 Ton truck came off causing oil to spray onto the engine compartment on the exhaust. This caused a small flame. The operator shut down the unit and put out the flame with the hand extinguisher.
05/11/94	An operator was driving when he noticed flames at his feet. Rags were left on the floor of a Kubota tractor near the exhaust system and caught fire. Water was used to put the fire out.
05/18/94	An operator was mucking out a drift round with a 6 yd. Toro when he noticed smoke coming from the engine compartment. He got off to investigate and when he saw flames he proceeded to extinguish the fire with the hand held fire extinguisher.
05/27/94	A fire occurred on a Kubota tractor when starter wires touched the exhaust. The fire was extinguished with a hand held extinguisher.
06/23/94	Compressor discharge hose failed on a JS 500 LHD resulting in a torch like effect with flame which was put out by the operator with a hand held extinguisher.
06/25/94	Drive-line brake applied because of low oil pressure, causing overheating of brakes on a Wagner 26 ton truck. The fire was put out with a 20 lb. extinguisher.
06/27/94	A worker was mucking with a Jarvis Clark C130 4 yd. LHD when he noticed flames under the exhaust blanket. He operated the suppression system and initiated the fire procedure. A mine rescue team investigated and found that the fire was out.
06/29/94	An RBL boom truck was descending a ramp when a flame was noticed coming out of the engine compartment. The operator stopped the vehicle and used an extinguisher to put out the fire.
07/08/94	While driving a Jarvis Clark JS285 Scooptram on the 2600 decline to the shop for maintenance, a fire occurred. A steel braided hose contacted an electrical solenoid to start the fire. The fire suppression system on the scooptram was used to put out the fire.

ONTARIO MINING FIRES
1994

Date of Fire	Description of Fire
07/13/94	The operator was using #1 Mechanical Scaler to scale the pillars. While operating the unit, a hydraulic hose broke causing oil to spray on the exhaust manifold. The sprayed oil erupted into flame. The employee put out the flame using a hand-held fire extinguisher.
07/19/94	A fire occurred on two 8 yd. Toro LHD's in the battery compartment. The fires were extinguished with an extinguisher and the suppression system.
07/26/94	Workman drove anfo loader on Getman carrier to the 3000 fuel bay to fuel up his loader. During the fuelling cycle using a Wiggin's system, fuel splashed onto the engine. The fire was extinguished using the suppression system and an extinguisher.
08/02/94	A 26 ton Wagner truck suddenly shut down while operating on ramp. Operator went to lunch room to call for a mechanic. In the meantime the truck caught fire. An extinguisher was used to put out the fire.
08/04/94	A dead end short occurred in the front lighting wiring of a 6 yd. EJC 210 LHD, causing a fire. The fire was extinguished with a fire extinguisher.
08/04/94	A fire occurred in the midship area of a MacLean block holer, when a hydraulic hose and battery cable were pinched while the operator turned sharply into the ore pass access drift on 8 Level. The fire was extinguished by the vehicle suppression system and several portable extinguishers.
08/08/94	Employee was bolting when he noticed the lights dimming. He looked at the back of the unit and saw a small flame. He tried to use the boom to come down. As he directed the boom to swing, a larger flame erupted. He then used the ladder to descend. He put out the fire using a hand-held extinguisher.
09/01/94	A worker was operating a Getman Trammer when flames were noticed from the boom pedestal area. The fire went out on its own. Conditions were normal.
09/02/94	Hydraulic hose leading to front disc brake broke

ONTARIO MINING FIRES
1994

Date of
Fire

Description of Fire

off on an ST8 and this resulted in the disc brake being applied. There was a small hydraulic leak from the dump cylinder on to the heated disc brake, causing a small fire. The fire was put out with an extinguisher.

- 09/10/94 The operator of a Toro 501D 8 yd. LHD noticed an engine fire.
A hand held extinguisher was used to put out the fire.
- 10/08/94 A worker was operating a Wagner 3.5 yd. scooptram in a captive stope when a fire occurred in the starter. The fire extinguisher failed and the worker activated the fire procedure. Two mine rescue teams went underground and they found that the fire was out.
- 10/13/94 A worker was operating a truck on a ramp when the brakes came on. A fire occurred in the brakes and it was extinguished using a fire extinguisher.
- 10/14/94 A worker was operating a Wagner 426 truck on a ramp when the brakes got hot and caused a fire. The fire was put out with the suppression system.
- 10/18/94 The mechanic was taking a Toro 40 ton truck up to the 4000 Shop to change a broken hydraulic hose. The drive line disc brake came on and heated up and set the leaking hydraulic oil on fire.
- 10/25/94 A fire in a Bobcat occurred shortly after the initial check. The open flames were extinguished using a 10 lb. extinguisher.
- 10/31/94 While mucking with a Wagner ST8, the operator noticed flames coming from the mid-section of the machine. He activated the fire suppression system which put out the fire.
- 11/01/94 Workman was backblading with a scooptram when he noticed flames in and about the air conditioning unit. Workman initiated the fire suppression system to extinguish the flames.
- 11/08/94 During remote operation of Elphinstone R1500 LHD unit, the operator noticed a fire in the engine compartment. The vehicle's suppression system extinguished the flames. The unit was later pulled out of the stope.
- 11/21/94 A worker was driving stiltmobile east along 8 Level by #2 Ore Pass when he noticed flames coming

ONTARIO MINING FIRES
1994

Date of Fire Description of Fire

through the floor of the operator's compartment. The worker stopped the machine, pulled the fire suppression unit on and then used two 5 lb. fire extinguishers to put the flames out in the engine compartment. A water hose was then used to cool the engine down and the turbo blanket was pulled back to inspect for hot spots.

- 11/24/94 A mechanic had just completed servicing a Toro 40 ton truck. The operator drove unit away without releasing the driveline park brake. Brakes overheated and caught fire. The fire was extinguished with a 20 lb. Ansul extinguisher.
- 11/26/94 A 6 yard EJC 210 LHD caught fire in a ramp at the Hoyle underground mine. Worker noticed smoke coming from the engine compartment. The fire suppression system was activated but did not function. He attempted to put the fire out with a fire extinguisher but was not able to extinguish the fire. The worker then called to have stench injected into the mine and sought refuge. The fire was put out by a mine rescue team.
- 12/11/94 A worker was operating an 8 yd. Toro LHD on the 12 level when a fire occurred. The suppression system did not put the fire out. The mine rescue team was called out and used fire extinguishers to put the fire out.
- 12/14/94 A fire occurred on a 413 haul truck when some wiring caught fire. The fire was put out with an extinguisher.
- 12/19/94 A fire occurred on a mobile rock breaker while it was being refuelled in 5200 fuel bay. The fire was put out with an extinguisher.
- 12/21/94 An equipment operator entered No. 36625 Stope and found a Ford 3910 tractor with smoke and flames coming from the engine compartment. The fire was extinguished with a portable fire extinguisher.
- 12/22/94 The operator of a JS 285 scooptram noticed flames coming from the engine compartment. The alternator had caught on fire when the positive terminal came loose and contacted the cover. The

ONTARIO MINING FIRES
1994

Date of Fire Description of Fire

12/23/94 windings of the alternator were burning and were
extinguished with a hand-held fire extinguisher.
As a truck entered the 4705 ore dump to dump a
load of ore, 2 wires shorted out at a clamp and
ignited some oil on the wiring. The truck was an
EJC 415 15 ton haulage truck.

12/27/94 A fire occurred on an LHD. The flames in the area
of the driveline brake were extinguished with the
fire suppression system.

ONTARIO MINING FIRES – 1994

List of fires by name of mine

ONTARIO MINING FIRES
1994
by MINE

NAME OF MINE OR MINING PLANT	DATE OF FIRE	TYPE OF FIRE
BELL CREEK MILL	01/03/94	MS
CAMPBELL RED LAKE MINE	01/11/94	MS
CAMPBELL RED LAKE MINE	02/06/94	FG
CAMPBELL RED LAKE MINE	12/20/94	EL
CANADA TALC	05/05/94	EL
COLEMAN MINE	04/17/94	MV
CRAIG MINE	01/21/94	MV
CRAIG MINE	01/31/94	MS
CRAIG MINE	03/10/94	MV
CRAIG MINE	04/18/94	MV
CRAIG MINE	07/26/94	MV
CRAIG MINE	09/01/94	MV
CRAIG MINE	10/18/94	MV
CRAIG MINE	11/01/94	MV
CRAIG MINE	11/24/94	MV
CRAIG MINE	12/01/94	MS
CREIGHTON MINE	01/07/94	MV
CREIGHTON MINE	12/27/94	MV
DAVID BELL MINE	06/27/94	MV
DAVID BELL MINE	08/04/94	MV
DAVID BELL MINE	11/21/94	MV
DETOUR LAKE MINE	04/16/94	MV
DETOUR LAKE MINE	06/25/94	MV
DETOUR LAKE MINE	08/02/94	MV
DETOUR LAKE MINE	08/29/94	MS
DETOUR LAKE MINE	10/31/94	MV
DETOUR LAKE MINE	12/14/94	MV
DOME MINE	10/08/94	MV
DOME MINE	11/25/94	MS
DOMTAR NO. 3 MINE	03/10/94	EF
GARSON MINE	03/16/94	MS
GODERICH MINE	02/17/94	MS
GODERICH MINE	04/14/94	MV
GODERICH MINE	04/30/94	MV
GODERICH MINE	07/13/94	MV
GODERICH MINE	08/08/94	MV
GODERICH MINE	11/30/94	EL
GODERICH MINE	12/19/94	MS
GOLDEN PATRICIA MINE	11/13/94	EL
GOLDEN PATRICIA MINE	11/15/94	MS
GOLDEN PATRICIA MINE	12/23/94	MV
HOYLE MINE	03/04/94	MV
KIDD CREEK MINE	02/10/94	MV
KIDD CREEK MINE	02/16/94	FG

ONTARIO MINING FIRES
1994
by MINE

NAME OF MINE OR MINING PLANT	DATE OF FIRE	TYPE OF FIRE
KIDD CREEK MINE	02/22/94	MV
KIDD CREEK MINE	03/29/94	EL
KIDD CREEK MINE	04/29/94	EL
KIDD CREEK MINE	04/29/94	MV
KIDD CREEK MINE	05/02/94	EL
KIDD CREEK MINE	05/10/94	MS
KIDD CREEK MINE	05/11/94	MV
KIDD CREEK MINE	05/18/94	MV
KIDD CREEK MINE	05/27/94	MV
KIDD CREEK MINE	07/19/94	MV
KIDD CREEK MINE	09/07/94	EN
KIDD CREEK MINE	09/10/94	MV
KIDD CREEK MINE	12/11/94	MV
KIDD CREEK MINE	12/19/94	MV
LOCKERBY MINE	01/14/94	MV
McCREEDY WEST	06/29/94	MV
McCREEDY WEST	10/13/94	MV
McCREEDY WEST	10/14/94	MV
NORTH MINE	09/02/94	MV
NORTH MINE	10/25/94	MV
OJIBWAY MINE	07/12/94	EF
OJIBWAY MINE	09/06/94	MS
ONAPING MINE	01/09/94	MV
ONAPING MINE	02/01/94	MV
ONAPING MINE	04/01/94	MV
PAMOUR ONE MINE - TIMMINS	05/11/94	EL
PAMOUR ONE MINE - TIMMINS	11/26/94	MV
RED LAKE MINE	07/08/94	MV
RED LAKE MINE	07/12/94	EF
SOUTH MINE	04/29/94	MV
SOUTH MINE	06/22/94	EL
SOUTH MINE	11/01/94	MS
STANLEIGH MINE	02/12/94	MS
STANLEIGH MINE	12/21/94	MV
THAYER LINDSLEY MINE	03/10/94	MV
THAYER LINDSLEY MINE	06/23/94	MV
THAYER LINDSLEY MINE	08/04/94	MV
WILLIAMS MINE	02/08/94	MV
WILLIAMS MINE	04/27/94	EF
WILLIAMS MINE	07/08/94	EF
WILLIAMS MINE	11/08/94	MV
WINSTON LAKE DIVISION	05/18/94	EL
WINSTON LAKE DIVISION	12/22/94	MV

ONTARIO MINING FIRES – 1994

Listing of the fires showing the damage caused

ONTARIO MINING FIRES
1994

DAMAGE CAUSED BY THE FIRES

DATE OF FIRE	TYPE OF FIRE	DESCRIPTION OF DAMAGE
01/03/94	MS	Burnt plywood and one 2" x 4" stud. Some sheet metal was removed to facilitate fire fighting.
01/11/94	MS	Roof burnt up around flashing and severe water damage to the majority of the roof.
01/21/94	MV	Brake pads required replacement.
02/06/94	FG	Burned up propane unit heaters.
02/12/94	MS	A 6' square section of the building wall and some teck cable were damaged.
02/16/94	FG	Burnt vent tubing.
02/17/94	MS	Exhaust fan housing.
03/10/94	MV	One hydraulic hose.
03/10/94	MV	Tires require rebuilding.
03/10/94	EF	The pillow block bearing was damaged.
03/29/94	EL	Fire destroyed transformer.
04/01/94	MV	One high pressure hose.
04/14/94	MV	Burnt compressor.
04/29/94	MV	Damage to battery cable.
04/29/94	EL	There was damage to a 600 Volt 3 PH fused disconnect.
05/02/94	EL	Burnt Joy plug.
05/05/94	EL	Teck cable was damaged.
05/10/94	MS	Damage to work platform, rubber hoses and wiring due to excessive heat.
05/11/94	EL	Remote trolley cable shorted out.
05/18/94	MV	1) Blower damage. 2) Ignition compartment wiring.
05/18/94	EL	Electrical distribution centre was destroyed along with numerous electrical cables.
05/27/94	MV	Burnt starter wires.
06/23/94	MV	Burst hydraulic hose.
06/25/94	MV	Replaced brake pads and added oil.
07/12/94	EF	Bearing failure.
07/19/94	MV	Both scooptrams sustained burned battery cables.
08/02/94	MV	Burned wiring, battery to starter.
08/04/94	MV	Minimal damage to wiring harness.
08/04/94	MV	One hydraulic hose and one battery cable were damaged.
08/08/94	MV	Damage to electrical (battery) cable.
08/29/94	MS	Damage to cell (no longer operational), buss bars anode and cathode holders have been warped.

ONTARIO MINING FIRES
1994

DAMAGE CAUSED BY THE FIRES

DATE OF FIRE	TYPE OF FIRE	DESCRIPTION OF DAMAGE
09/01/94	MV	Wiring harness was burned.
09/06/94	MS	Enclosure between belt area and warehouse was damaged.
09/07/94	EN	Oxygen hose was destroyed.
10/08/94	MV	There was major damage to the scooptram.
10/18/94	MV	Broken hydraulic hose.
11/01/94	MV	Burned wiring harness.
11/01/94	MS	Line damaged.
11/13/94	EL	Transformer was destroyed.
11/15/94	MS	Fire damage to filter, electrical panel, and guards.
11/21/94	MV	There was damage to the turbo blanket and air filter housing on the stiltmobile.
11/24/94	MV	Brake calipers had to be replaced.
11/25/94	MS	Some damage to old mine timbers.
11/26/94	MV	The scoop is irreparable. A section of leaky feeder cable burned and a section of outer rubber jacket on 4160 cable burned.
11/30/94	EL	Damage was limited to the electrical wire.
12/11/94	MV	There was extensive damage to the vehicle.
12/20/94	EL	Transformer was destroyed.
12/22/94	MV	The alternator was burned.

ONTARIO MINING FIRES – 1994

Description of the Mine Rescue activities

ONTARIO MINE RESCUE

INCIDENT REPORTS 1994

<u>DATE</u>	<u>DISTRICT</u>	<u>INCIDENT</u>	<u>MINE</u>	<u>#</u>
<u>JANUARY</u>				
07	Sudbury	Scooptram brake fire	Creighton	1
13	Onaping	Remote Scooptram fire	Lockerby	2
13	Sudbury	Air Quality Tests following fire	Min. of Labour	3
<u>FEBRUARY</u>				
11	Timmins	Scooptram fire	Kidd Creek	4
22	Timmins	Electrical Panel fire	Royal Oak	5
<u>APRIL</u>				
14	Kirkland Lake	Fire Drill	St. Andrews	6
18	Kirkland Lake	Air Quality Tests/Abandoned Mine	Lakeshore	7
27	Thunder Bay	Fire Drill	Williams	8
<u>MAY</u>				
5	Southern Ontario	Electrical Cable Fire	Canada Talc	9
18	Thunder Bay	Electrical Substation Fire	Metall	10

JUNE

16	Elliot Lake	Blasting Smoke	Rio Algom/Stanleigh	11
17	Sudbury	Fire Drill	Stobie	12
27	Thunder Bay	Scooptram Fire	David Bell	13
29	Timmins	Hot Muck	Kidd Creek	14

JULY

5	Elliot Lake	OPP investigation	Copper Core	15
5	Onaping	Fire Alarm	Lockerby	16
7	Southern Ontario	Fire Alarm	Domtar	17

AUGUST

11	Sudbury	Fire Drill	C.C.N.M.	18
25	Sudbury	Fire Drill	Crean Hill	19
26	Kirkland Lake	Fire Drill	Holt McDermott	20
31	Kirkland Lake	Fire Drill	Detour Lake	21

SEPTEMBER

3	Kirkland Lake	Blasting Smoke	Detour Lake	22
11	Thunder Bay	Post Blast Inspection	Geco Mine	23
14	Sudbury	Fire Drill	Garson	24
15	Red Lake	Smoke	Goldcorp	25

OCTOBER

06	Sudbury	Fire Drill	Creighton	26
08	Red Lake	Fire Drill	Golden Pat.	27
08	Kirkland Lake	Scooptram Fire	Detour Lake	28
12	Sudbury	Fire Drill	Coleman	29
13	Sudbury	Fire Drill	Garson	30
14	Red Lake	Re-opening - Ventilation Check	Madsen	31
24	Red Lake	Fire Drill	Campbell	32
28	Sudbury	Fire Drill	Creighton	33

NOVEMBER

02	Timmins	SO ₂ readings	Kidd Creek	34
03	Sudbury	Fire Drill	C.C. N.M.	35
04	Sudbury	Fire Drill	Crean Hill	36
05	Timmins	Fire Drill	Kinross	37
07	Red Lake	Ground & Gas check	Madsen	38
14	Red Lake	Transformer Fire	Golden Pat.	39
24	Thunder Bay	Fire Drill	Geco Mine	40
25	Kirkland Lake	Smoke reported	Maccassa	41
25	Timmins	Timber fire	Dome Mine	42
26	Timmins	Scooptram fire	Royal Oak	43

DECEMBER

01	Thunder Bay	Fire Drill	Geco	44
01	Elliot Lake	Fire Drill	Rio Algom	45
01	Thunder Bay	Fire Drill	Metall	46
01	Onaping	Nonel caps - Smoke reported	Craig	47
06	Kirkland Lake	Fire Drill	Detour Lake	48
07	Red Lake	Fire Drill	Goldcorp.	49
07	Thunder Bay	Fire Drill	David Bell	50
08	Thunder Bay	Fire Drill	Geco	51
08	Thunder Bay	Fire Drill	Williams	52
10	Timmins	Worker - Oxygen Defficiency	Dome Mine	53
11	Timmins	Scooptram Fire	Kidd Creek	54
15	Red Lake	Fire Drill	Goldcorp.	55
15	Red Lake	Fire Drill	Campbell	56
19	Thunder Bay	Fire Drill	Hemlo Gold	57
19	Thunder Bay	Fire Drill	Williams	58
19	Elliot Lake	Fire Drill	Algoma Ore Division	59
29	Red Lake	Fire Drill	Golden Patricia	60
30	Red Lake	Fire Drill	Golden Patricia	61

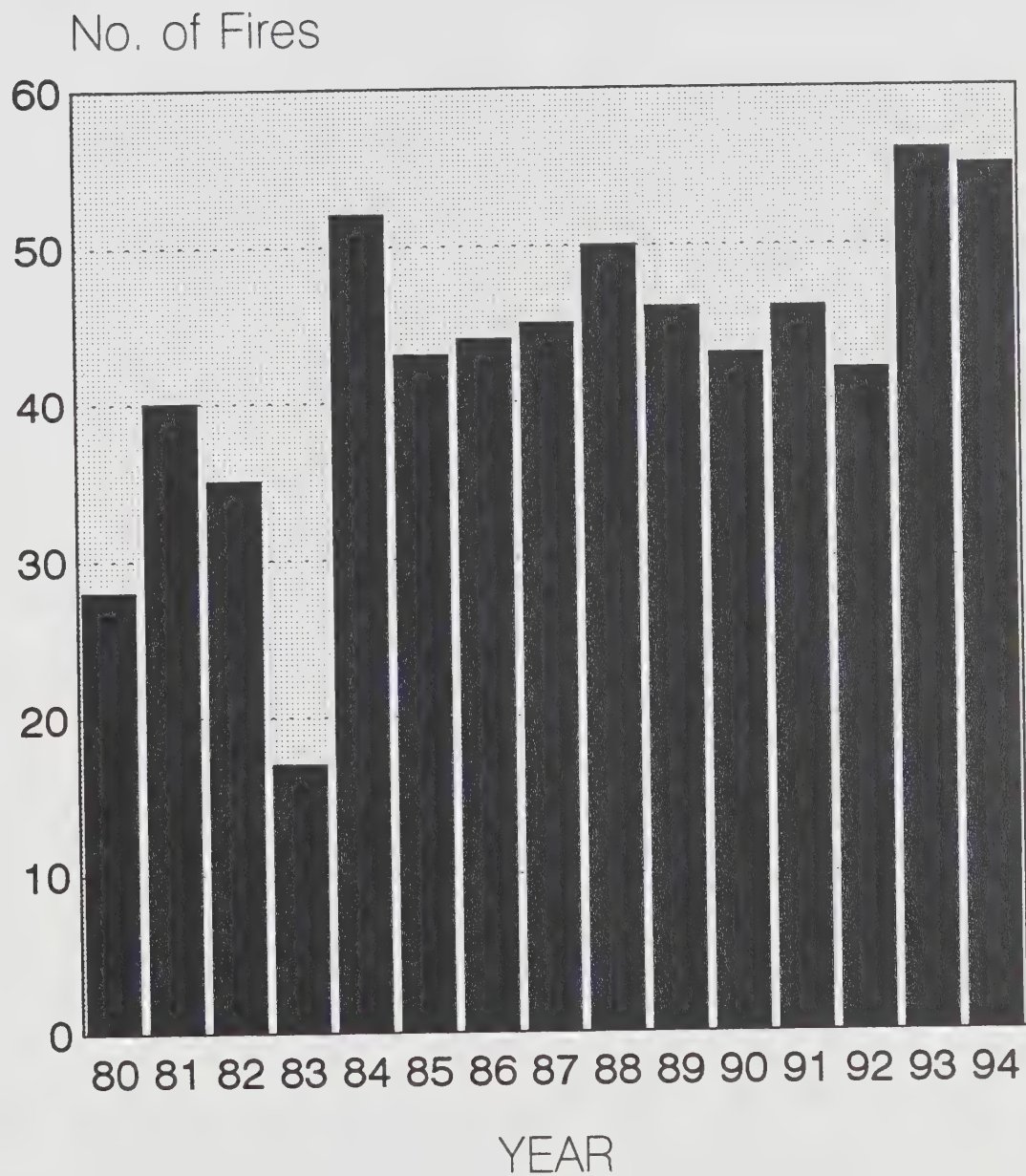
ONTARIO MINING FIRES – 1994

Mobile Vehicle Fires

The following data is from the Ministry of Labour's separate report on underground motor vehicles. As vehicle fires are 63% of all fires reported, the attached tables and charts give some details and analysis on these fires.

MOBILE VEHICLE FIRES

Total Fires for 1980-1994



Ontario - Chart No. 1

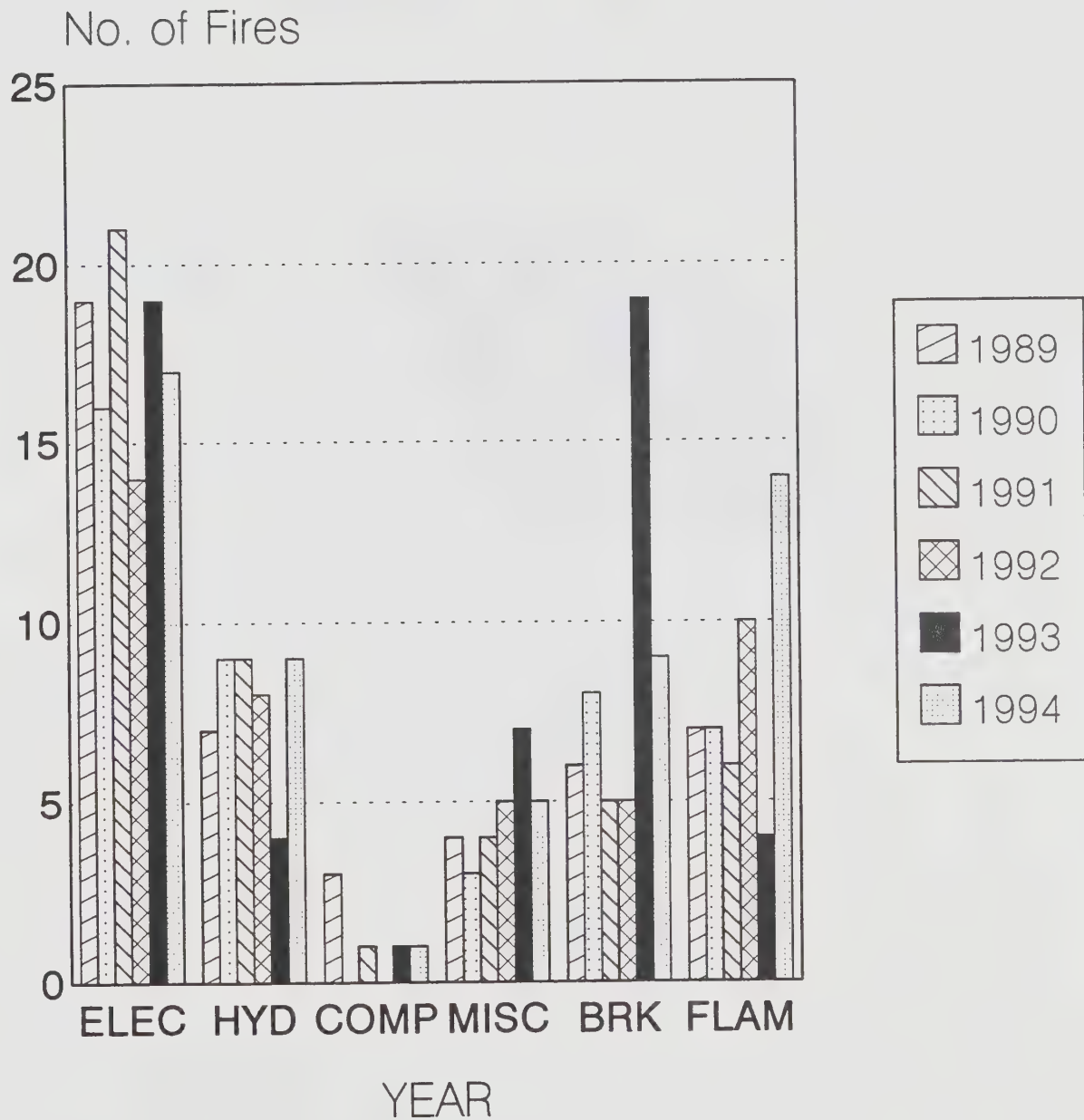
TABLE # 2

TYPES OF FIRES

YEAR

TYPES OF FIRES	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	TOTAL	%
A. ELECTRICAL	17	18	19	17	13	19	16	21	14	19	17	190	36
B. HYDRAULIC OIL ONTO HOT SURFACE	19	12	6	13	16	7	9	9	8	4	9	112	21
C. COMPRESSOR	1	4	2	1	2	3	0	1	0	1	1	16	3
D. OTHER	2	1	4	0	3	2	1	3	4	7	5	32	6
E. WELDING/BURNING	0	0	0	0	0	2	2	1	1	0	0	6	1
F. OVERHEATED BRAKES	8	1	7	7	8	6	8	5	5	19	9	83	16
G. FLAMMABLE LIQUIDS	5	7	6	7	8	7	7	6	10	6	14	83	16
TOTAL	52	43	44	45	50	46	43	46	42	56	55	522	

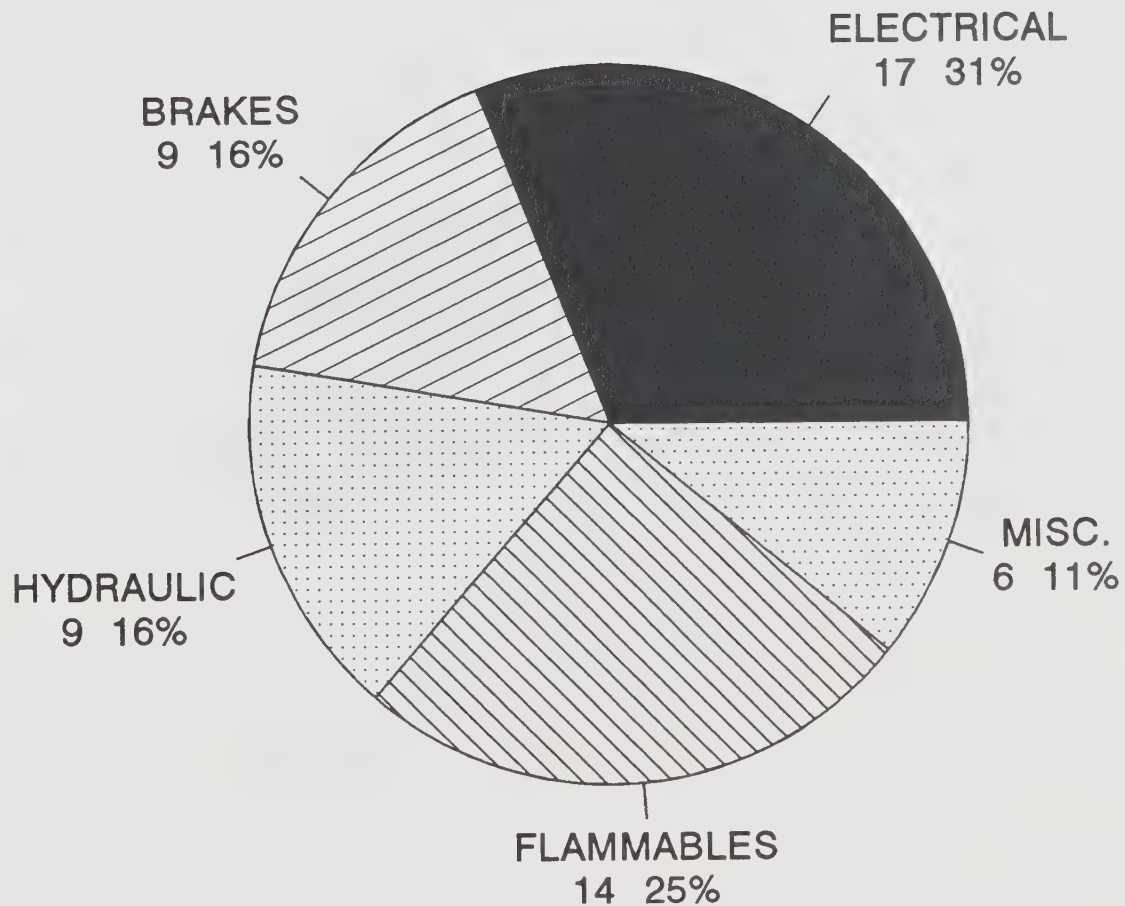
MOBILE VEHICLE FIRES by TYPE for 1989-1994



Ontario - Chart No. 2

MOBILE VEHICLE FIRES

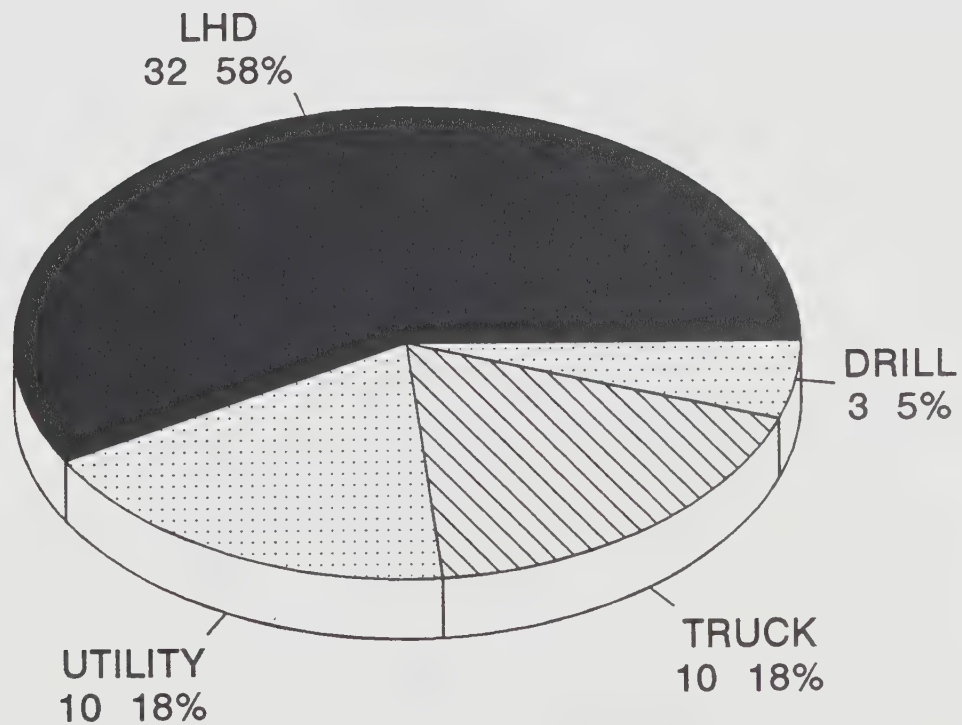
Types of Fires - 1994



Ontario - Chart No. 3.1

MOBILE VEHICLE FIRES

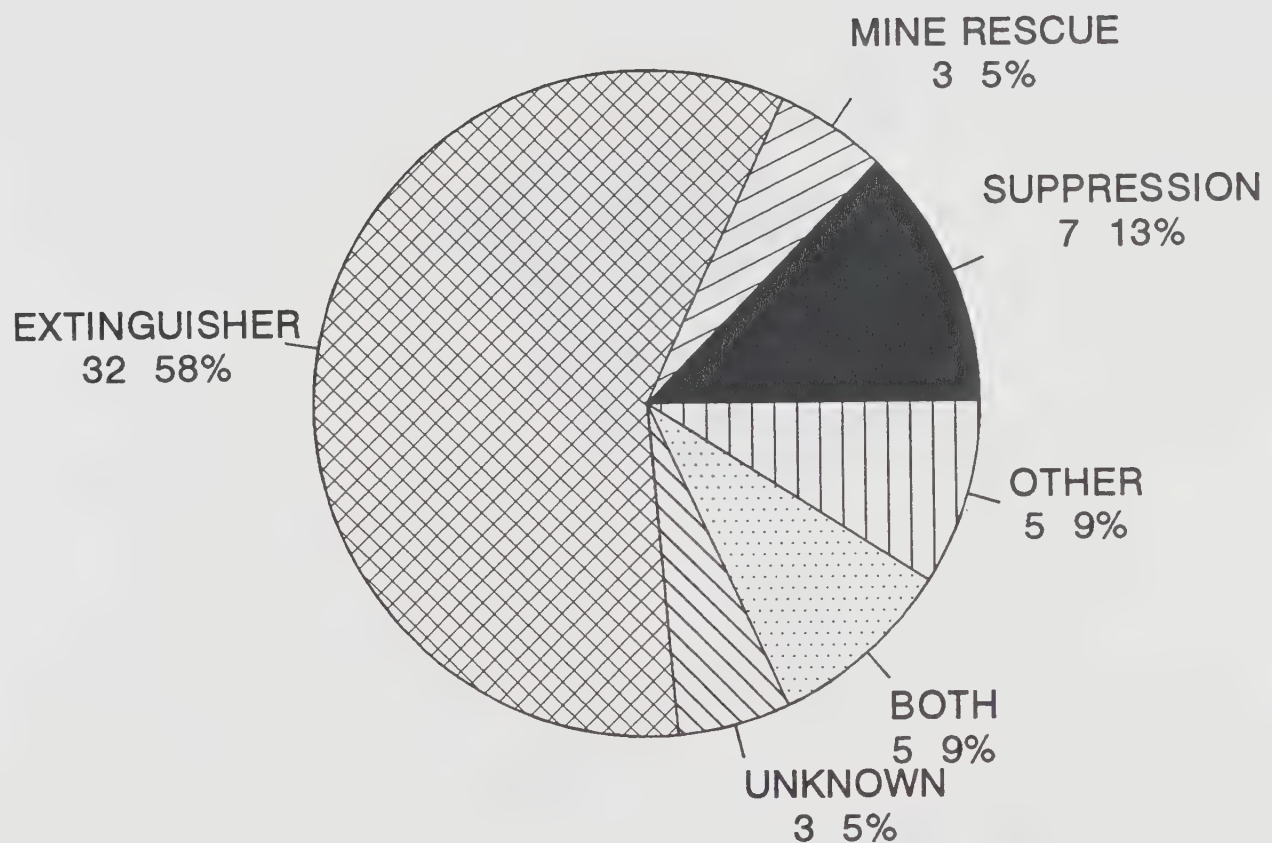
Vehicles Involved - 1994



Ontario - Chart No. 3.2

MOBILE VEHICLE FIRES – 1994

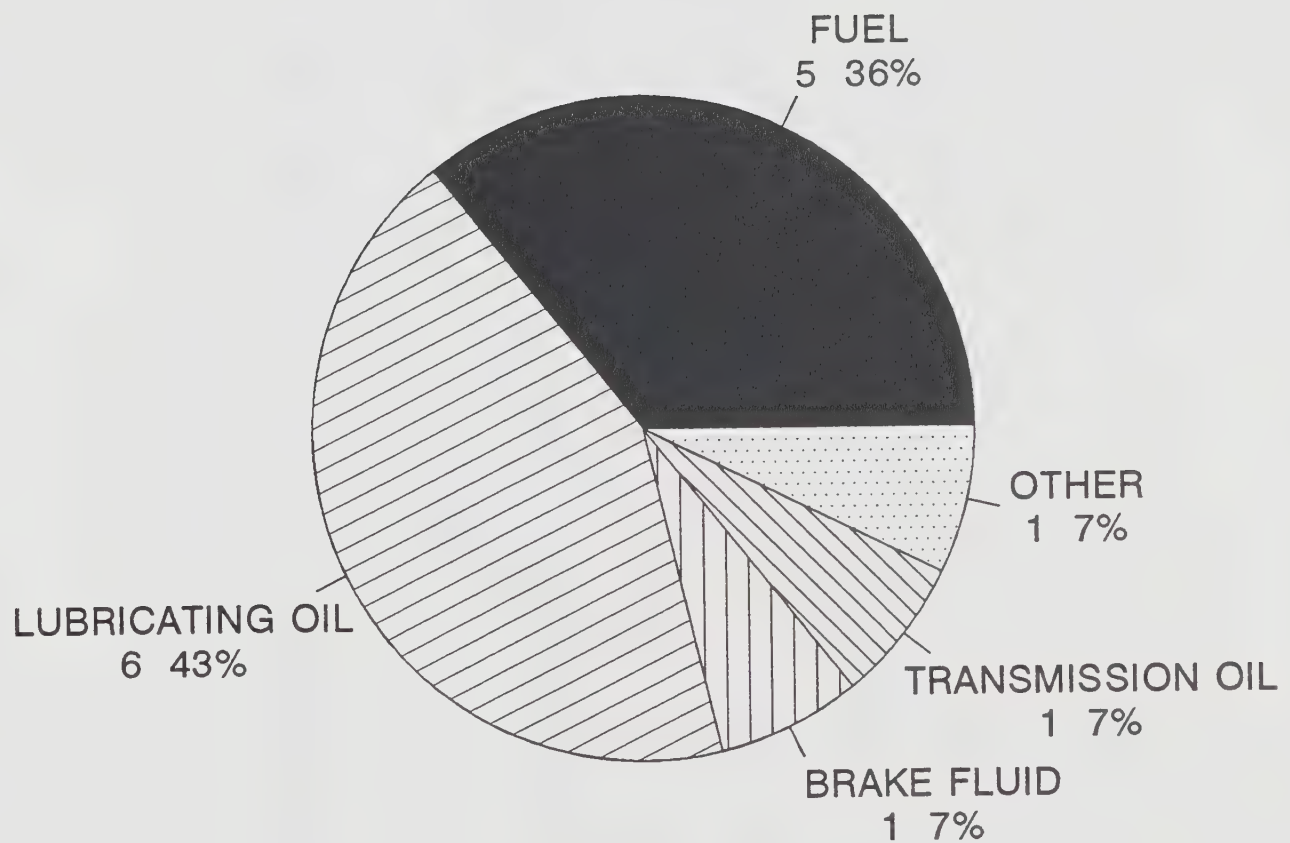
How the Fires were Extinguished



Ontario - Chart No. 3.3

MOBILE VEHICLE FIRES – 1994

Type of Flammable Liquid



Ontario - Chart No. 3.4

TABLE # 3

BREAKDOWN OF ELECTRICAL MOBILE VEHICLE FIRES

YEAR

AREA OR CAUSE	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	TOTAL	%
SHORT IN PANEL	3	3	2	1	1	4	2	2	1	4	1	5	1	2	0	32	13
SHORT - M. SWITCH	1	0	0	0	1	1	1	0	1	0	0	0	1	2	0	8	3
BATTERY OR STARTER LOCATION	3	8	3	0	7	9	6	7	5	6	2	8	9	8	6	87	34
WORN JACKET	6	9	10	3	8	3	4	5	5	7	8	3	2	5	10	88	35
HEADLIGHT WIRING	0	2	1	0	0	1	0	1	1	0	2	1	0	0	0	9	4
OTHER	1	0	6	2	0	0	6	2	0	2	3	4	1	2	1	30	12
TOTAL	14	22	22	6	17	18	19	17	13	19	16	21	14	19	17	254	

TABLE # 4

CAUSES OF HYDRAULIC FIRES

Year

CAUSE	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	TOTAL	%
BROKEN HOSE	7	5	2	5	2	0	0	5	3	3	5	37	33
HOSE WORN THRU	2	3	1	2	5	4	1	2	1	0	0	21	19
CONNECTION FAILURE	4	1	0	3	5	2	4	1	0	0	2	22	20
PIN HOLE LEAK	1	1	1	1	1	0	2	1	1	1	1	11	10
OTHER	5	2	2	2	3	1	2	0	3	0	1	21	19
TOTAL	19	12	6	13	16	7	9	9	8	4	9	112	

